

ABSTRACT OF THE DISCLOSURE

The invention is a method for assessing whether or not reproductive health effects are present in terrestrial ecological receptors inhabiting contaminated sites. Adult male rodents are concurrently trapped at the contaminated site of interest and at a matched non-contaminated reference location. In at least some embodiments, the sperm analysis can be corroborated with additional data to further increase the accuracy of the comparison. For a given small rodent species, three sperm parameters, all of which are barometers of reproductive success (a high concern ecological risk assessment toxicological endpoint), are compared in the animals trapped at the contaminated site and the animals trapped at the reference location. Where one or more of the sperm parameter thresholds are exceeded in the site rodents, and the difference is found to be statistically significant, the interpretation is that site terrestrial receptors are being reproductively compromised.